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ABSTRACT

Compositions ~~Compo--ions~~ and methods of treating ~~treat--g~~ mammalian diseases using myoblasts, and/or their physical, genetic, chemical derivatives. Myogenic cells that are normal, or genetically or phenotypically altered are cultured and transplanted into malfunctioning and/or degenerative tissues or organs to alleviate conditions that are hereditary, degenerative, debilitating, undesirable, and/or fatal. Treatment of these conditions is not limited to the usage of mechanical, electrical or physical properties of these myogenic cells, but includes the usage of biochemicals secreted/released by the latter. The present invention discloses the use of normal myoblasts to deliver the complete normal genome to effect genetic repair, or to augment the size, or the function of tissues or organs. Certain conditions may be better served with genetically altered myogenic cells derived from gene transduction, whereas others may be better served with cytoclimes converter cells. Endogenous biochemical(s) are used to control cell fusion of myoblasts among themselves or with other cell types. An automated cell processor within a cell bank which enables the manufacture, at a single run, of unprecedented large quantities (greater than 100 billion) of normal or genotypically or phenotypically altered myogenic cells is also disclosed.